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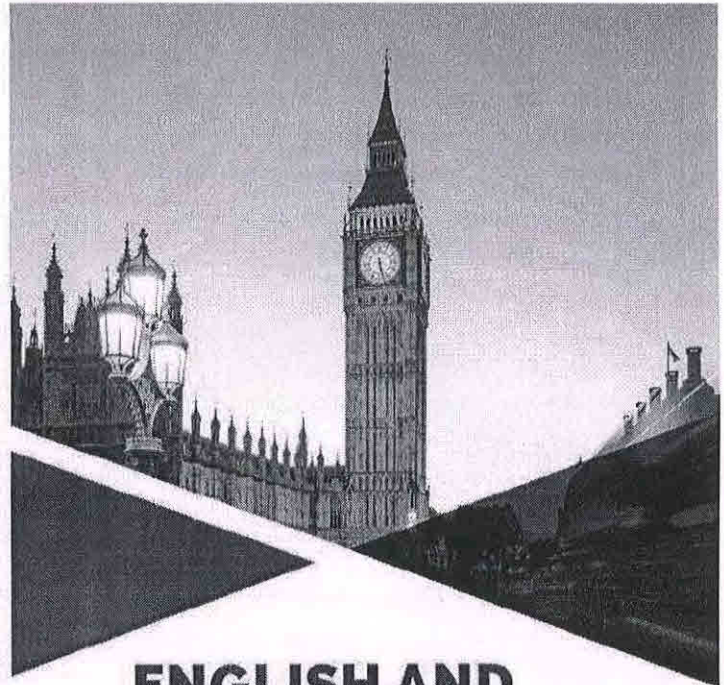


MRS. B. NAGA BHAVANI is presently working as an Assistant Professor in English Department, Siddhartha Institute of Engineering and Technology, Ibrahimpatnam, Hyderabad. She has completed her PG in English Literature from Arts College, Osmania University, Hyderabad. She has been working in several Engineering colleges for the last 6 years. She has extensive experience in English Language Teaching, communication and English Literature. She has attended workshops, Seminars and FDP programmes in English Literature.

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ENGLISH AND COMMUNICATION SKILLS



# ENGLISH AND COMMUNICATION SKILLS

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DR. KAMBHAMPATI RAJESH  
MRS. B. NAGA BHAVANI



  
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# ENGLISH AND COMMUNICATION SKILLS

FIRST EDITION

DR. KONIDALA MURALI  
DR. KAMBHAMPATI RAJESH  
MRS.B.NAGA BHAVANI



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## SYLLABUS

<b>Module-I</b>	<b>GENERAL INTRODUCTION AND LISTENING SKILL</b>
Introduction to communication skills; Communication process; Elements of communication; Soft skills vs. hard skills; Importance of soft skills for engineers; Listening skills; Significance; Stages of listening; Barriers and effectiveness of listening; Listening comprehension.	
<b>Module-II</b>	<b>SPEAKING SKILL</b>
Significance; Essentials; Barriers and effectiveness of speaking; Verbal and non-verbal communication; Generating talks based on visual prompts; Public speaking; Addressing a small group or a large formal gathering; Oral presentation; Power point presentation.	
<b>Module-III</b>	<b>VOCABULARY AND GRAMMAR</b>
The concept of Word Formation; Root words from foreign languages and their use in English; Acquaintance with prefixes and suffixes from foreign languages in English to form derivatives; Synonyms; Antonyms; Standard abbreviations; Idioms and phrases; One word substitutes Sentence structure; Uses of phrases and clauses; Punctuation; Subject verb agreement; Modifiers; Articles; Prepositions.	
<b>Module-IV</b>	<b>READING SKILL</b>
Significance, Techniques of reading, Skimming-Reading for the gist of a text, Scanning - Reading for specific information, Intensive, Extensive reading, Reading comprehension, Reading for information transfer, Text to diagram, Diagram to text.	
<b>Module-V</b>	<b>WRITING SKILL</b>
Significance; Effectiveness of writing; Organizing principles of Paragraphs in documents; Writing Introduction and conclusion; Techniques for writing precisely, Letter writing; Formal and Informal letter writing, E-mail writing , Report Writing.	
<b>Text Books:</b>	
1. Handbook of English (Prepared by the faculty of English, IARE).	
<b>Reference Books:</b>	
1. Norman Whitby, "Business Benchmark: Pre-Intermediate to Intermediate – BEC Preliminary", Cambridge University Press, 2 <sup>nd</sup> Edition,2008. 2. Devaki Reddy, Shreesh Chaudhary, "Technical English", Macmillan, 1 <sup>st</sup> Edition,2009. 3. Rutherford, Andrea J, "Basic Communication Skills for Technology", Pearson Education,2 <sup>nd</sup> Edition, 2010. 4. Raymond Murphy, "Essential English Grammar with Answers", Cambridge University Press, 2 <sup>nd</sup> Edition,2010. 5. Dr.NVSudershan,"PresidentKalam'sCalltotheNation",BalaBharathiPublications, Secunderabad, 1 <sup>st</sup> Edition,2003.	

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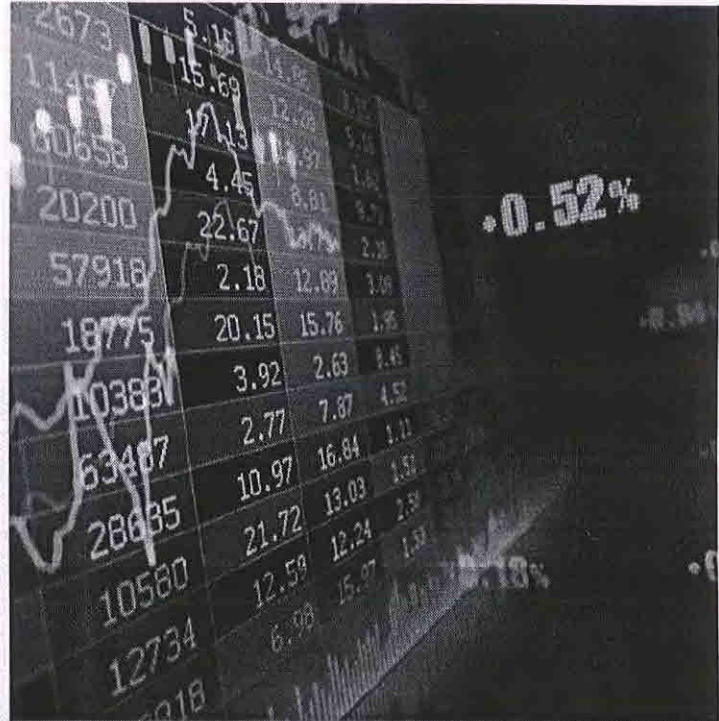
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FINANCIAL MARKETS AND SERVICES



# FINANCIAL MARKETS AND SERVICES

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Mr. Ramesh Vankadoth



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MR. RAMESH VANKADOTH



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## SYLLABUS

### UNIT I: Introduction

Financial Services - Concept - Objectives - Functions - Characteristics - Financial Services Market - Concept - Constituents - Growth of Financial Services in India - Financial Services Sector Problems - Financial Services Environment - The Forces - Players in Financial Markets.

### UNIT II: Merchant Banking and Public Issue Management

Definition - Functions - Merchant Bankers Code of Conduct - Public Issue Management – Concept - Functions - Categories of Securities Issue - Mechanics of Public Issue Management – Issue Manager - Role of issue Manager - Marketing of Issue - New Issues Market Vs Secondary Market.

### UNIT III: Money Market and Stock Exchange

Characteristics - Functions - Indian Capital Market - Constituents of Indian Capital Market – New Financial Institutions and Instruments - Investor Protection - Stock Exchange - Functions - Services - Features - Role - Stock Exchange Traders -Regulations of Stock Exchanges - Depository - SEBI - Functions and Working.

### UNIT IV: Leasing and Factoring and Securitisation

Characteristics - Types - Participants - Myths about Leasing - Hire Purchase – Lease Financing Vs Hire Purchase Financing - Factoring - Mechanism - Functions of a Factor - Factoring - Players- Types - Operational Profile of Indian Factoring - Operational Problems in Indian Factoring - Factoring Vs bills Discounting - Securitisation of Debt- Parties involved- Steps of securitisation - Types of securitisation- Advantages- Limitations – SARFAESI Act 2002- Background Purpose of the Act- Main provisions

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**UNIT V: Venture Capital, credit rating and pension Fund**

Origin and Growth of Venture Capital - Investment Nurturing Methods - Mutual Funds – Portfolio Management Process in Mutual Funds - Credit Rating System - Growth Factors - Credit Rating Process - Global and Domestic Credit Rating agencies - Pension Fund - Objectives - Functions - Features - Types - Chilean Model.

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## PREFACE

I feel encouraged by the widespread response from teachers and students alike to the first edition. I am presenting thoroughly revised and enlarged, to my readers in all humbleness. All possible efforts have been made to enhance further the usefulness of the book. The feedback received from different sources has been incorporated

The present book entitled financial services is indeed an exposure to knowledge of auditing. With regards of students, teachers and auditors requirements, we are happy to carry the book on financial services for B.Com students covering the whole revised syllabus. This book contains more than enough material for a third Semester. This book approaches the subject in an easy to understand sequence that helps self-study.

The book approached in-depth knowledge of the subject along with good marks. This book is summarized into five chapters. With all the new elements incorporated and additionally revision done, we enthusiastically hope that this book would help the students, the teacher, bankers and all the interested readers to get knowledge the various concepts of banking in a most comprehensive way to face the present and future challenges which are occurred in this book. This book is very simple and useful to all undergraduate students of arts and science, teacher and banker. I hope this book must direct the students to best auditor in future and develop the student's career.

I am highly indebted to my students and learned colleagues in the Department for providing the necessary stimulus for writing this book. I am grateful to all those persons whose writings and works have helped me in the preparation of this book. I am equally grateful to the reviewer of the manuscript


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of this book who made extremely valuable suggestions and has thus contributed in enhancing the standard of the book.. I shall feel amply rewarded if the book proves helpful in the development of genuine research studies. I look forward to suggestions from all readers, especially from experienced researchers and scholars for further improving the subject content as well as the presentation of this book.


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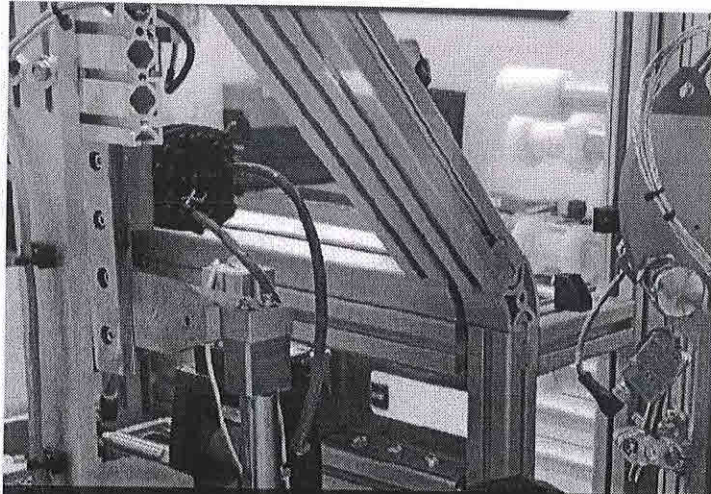


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FUNDAMENTALS OF SPECIAL MACHINES



# FUNDAMENTALS OF SPECIAL MACHINES

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S. NAVEEN  
G. LINGAIAH



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## SYLLABUS

### 1. MANUFACTURING OF PLASTIC COMPONENTS

Plastic Components: Types of plastics - Engineering plastics – thermosets – composite - structural foam, elastomers - polymer alloys and liquid crystal polymers. Factors Influencing the Selection of Plastics - Mechanical properties – degradation - wear resistance - frictional properties - special properties –processing – cost. Processing of Plastics: Extrusion-general features of single screw extrusion -twin screw extruders. Injection moulding types: Plunger type - Reciprocating screw injection - details of injection mould - structural foam injection mould - sandwich moulding - gas injection moulding - injection moulding of thermosetting materials - calendaring and rotational moulding. Design consideration for plastic components. Composite manufacturing: Introduction – characteristics of composite manufacturing - constituents – Glass fibers manufacturing process – hand laminating process – autoclave processing – filament winding – pultrusion process – liquid composite process – working principles by schematic diagram only – advantages – disadvantages.

### 2. RECIPROCATING MACHINES

Planer: Introduction - description of double housing planer – specifications -principles of operation – drives - quick return mechanism - feed mechanism - work holding devices and special fixtures - types of tools - operations. Shaper: Introduction – specifications – principles of operations standard shaper – quick return mechanism - crank and slotted link – hydraulic shaper - feed mechanism - work holding devices – fixture - operations. Slotter: Introduction – specifications - method of operation - Whitworth quick return mechanism - feed mechanism - work holding devices - types of tools. Broaching: Types of broaching machine - horizontal, vertical and continuous broaching - principles of operation - types of broaches – classification - broach tool nomenclature - broaching operations.

### 3. MILLING MACHINES AND GEAR GENERATING PROCESSES

Milling Machines: Types - column and knee type – plain - universal milling machine - vertical milling machine - principles of operation - specification of milling machines - work holding devices - tool holding devices - arbor - stub arbor - spring collet – adapter. Milling cutters: cylindrical milling cutter - slitting cutter -side milling cutter - angle milling cutter - T-

slot milling cutter - woodruff milling cutter - fly cutter - nomenclature of cylindrical milling cutter.

Milling operations: straddle milling - gang milling - vertical milling attachment. Indexing plate – differential indexing - simple indexing – compound indexing – simple problems. Generating Process: gear shaper - gear hobbing - principle of operation only. Gear finishing processes: burnishing – shaving - grinding and lapping - gear materials.

#### **4. ABRASIVE PROCESS AND NON- CONVENTIONAL MACHINING PROCESSES**

Abrasive Process: Types and classification – specifications - rough grinding – pedestal grinders - portable grinders - belt grinders - precision grinding - cylindrical grinder - centerless grinders – surface grinder - tool and cutter grinder - planetary grinders - principles of operations - grinding wheels – abrasives - natural and artificial diamond wheels - types of bonds - grit, grade and structure of wheels - wheel shapes and sizes - standard marking systems of grinding wheels - selection of grinding wheel - mounting of grinding wheels - Dressing and Truing of wheels - Balancing of grinding wheels.

Non-Conventional Machining Processes: Construction, working and applications of Ultrasonic machining - chemical machining - electro chemical grinding - electrical discharge machining - plasma arc machining - LASER machining - Advantages – Disadvantages.

#### **5. CNC MACHINE AND ITS COMPONENTS**

CNC Machines: Numerical control – definition – working principle of a CNC system – Features of CNC machines - advantage of CNC machines – difference between NC and CNC – Construction and working principle of turning centre – Construction and working principle of machining centre – machine axes conventions turning centre and machining centre – Coordinate measuring machine – construction and working principle. Components of CNC machine: Slide ways – requirement – types – friction slide ways and antifriction slide ways - linear motion bearings – recirculation ball screw – ATC – tool magazine – feedback devices – linear and rotary transducers – Encoders - in process probing - tool material – tool inserts.

  
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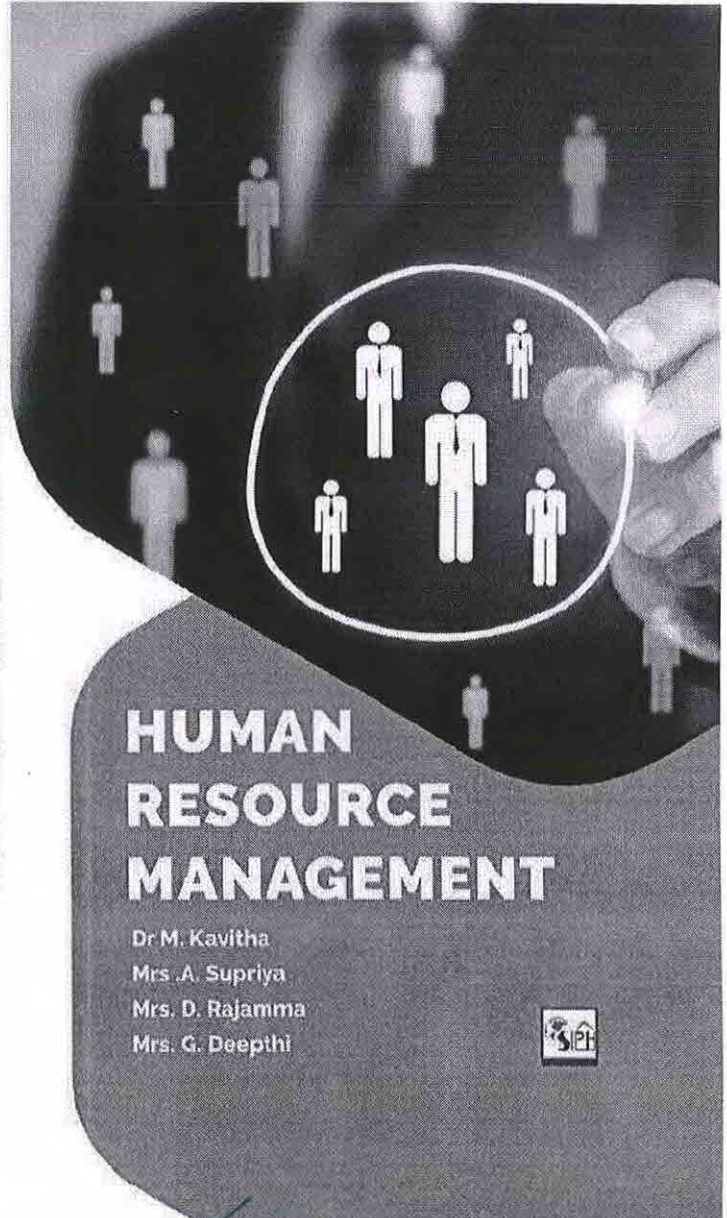
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HUMAN RESOURCE MANAGEMENT



# HUMAN RESOURCE MANAGEMENT

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*Principal*  
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# HUMAN RESOURCE MANAGEMENT

FIRST EDITION

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MRS. D. RAJAMMA  
MRS. G. DEEPTHI



(SCIENTIFIC INTERNATIONAL PUBLISHING HOUSE)

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## PREFACE

I feel encouraged by the widespread response from teachers and students alike to the first edition. I am presenting thoroughly revised and enlarged, to my readers in all humbleness. All possible efforts have been made to enhance further the usefulness of the book. The feedback received from different sources has been incorporated

This book on Human Resource Management my ambition in life is to publish a book on Human Resource Management. This is a wonderful subject, but unfortunately remained an anathema for several courses. From my interaction with the students I could understand that the reason for fearing this subject is the difficulty in comprehending the subject matter. Further, the language used in the books on this subject is reported to be very complex. So the basic objective kept in mind while preparing this book was to present the subject matter in a very simple and lucid language. As part of simplification effort, throughout the text, a number of examples have been given to make the understanding easy.

The distinguishing feature of this book is that the subject matter has been introduced in a gradual manner and at the end of each chapter short answer type questions and essay type questions have been given in such a manner that the students can easily understand the subject matter in depth. This will be more useful to the students who aspire for competitive examinations. Moreover, to test the understanding of the students and to have sufficient practice, have also been given at the end of each chapter. I hope this book will be highly useful to the students of Commerce and Management.

Considering the importance of the Human Resource Management most Universities have included "Human Resource Management" as one of the subjects

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in their Post-Graduate Programmes such as B.Com., M.Com., B.Com.(CA), M.Com.(CA), BBA., MBA., and M.Phil.(Commerce), M.Phil. (MBA).

This book provides strong conceptual framework for the study and understanding of the various aspects of Human Resource Management. I hope that the book would be useful to students, research scholars, teachers and the business community.

I register my profound sense of gratitude to the professors for their co-operation and encouragement in writing this book and also for familiarizing this book among the students.

  
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## SYLLABUS

### UNIT I

Nature and Scope of Human Resources Management – Differences between Personnel Management and HRM – Environment of HRM – Human Resource Planning – Recruitment – Selection – Steps in Selection Process – Uses of Various Tests.

### UNIT II

Induction – Training – Methods – Identification of the training needs – Training and Development – Performance appraisal – Transfer – Promotion and termination of Employee – Career development.

### UNIT III

Remuneration – Components of remuneration – Incentives – Motivation – Welfare and social security measures.

### UNIT IV

Labour Relation – Functions of Trade Unions – Forms of collective bargaining- Workers' participation in management – Industrial Disputes and Settlements (laws excluded)

### UNIT V

Human Resource Audit– Types – Benefits – Scope – Approaches.


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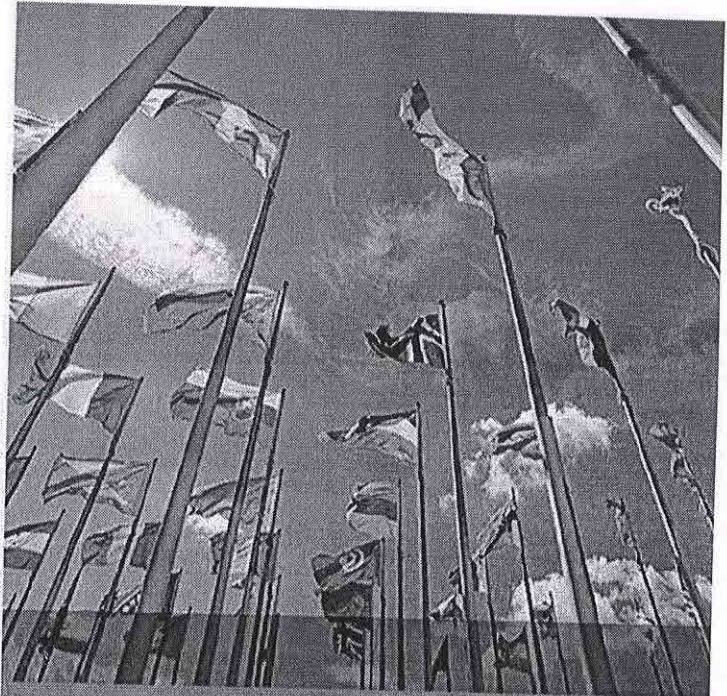
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INTERNATIONAL FINANCE: TEXT AND CASES

# INTERNATIONAL FINANCE: TEXT AND CASES

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# INTERNATIONAL FINANCE: TEXT AND CASES

**FIRST EDITION**

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## PREFACE

International Financial Management is a well-known term in today's world and it is also known as International Finance. It means financial management in an international business environment. International finance is the branch of economics that studies the dynamics of exchange rates, foreign investments, and how these affect international trade. Fundamentals of International Finance deal with the study of foreign investments, the changes in the foreign exchange rates, and how international trade is influenced by them. International finance also follows techniques for allocation of funds and resources in international trade. However, it faces certain hindrances regarding mobility of capital and foreign currencies, as well as the foreign also tries to solve the problem of human resource exploitation carried out by MNC in the poor and developing countries by applying its own principles, three conceptually distinct but interrelated parts are identifiable in international finance.

International Financial Markets: Concerned With International Financial/ Investments Instruments, Foreign Exchange Markets, International Banking, International Securities Markets Financial Derivatives Etc.

All the above parts of international finance are covered in this book and I deem that readers will appreciate my efforts.

I have the great pleasure of presenting the comprehensive first edition on International Finance. It holds everything and anything that one needs to know, about international finance, the students and teaching faculties of the subject. The significance of international finance as a discipline has evolved profusely in the last 3 decades due to deregulation of financial markets and also due to product and technological developments. Each country is economically related to other nations of the world, through a complex network of international traditions and financial relationships in this context. As always, suggestions for improvement are welcomed.

  
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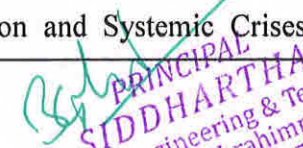
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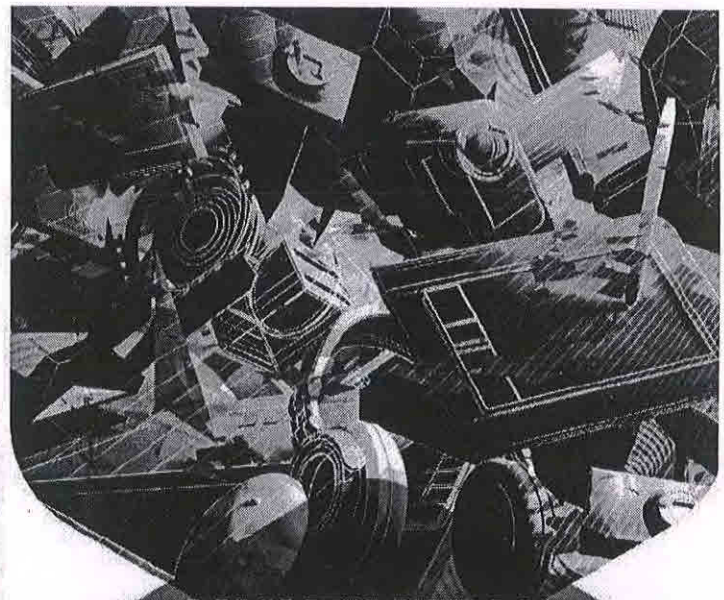
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MULTIMEDIA SYSTEMS DESIGN

# MULTIMEDIA SYSTEMS DESIGN

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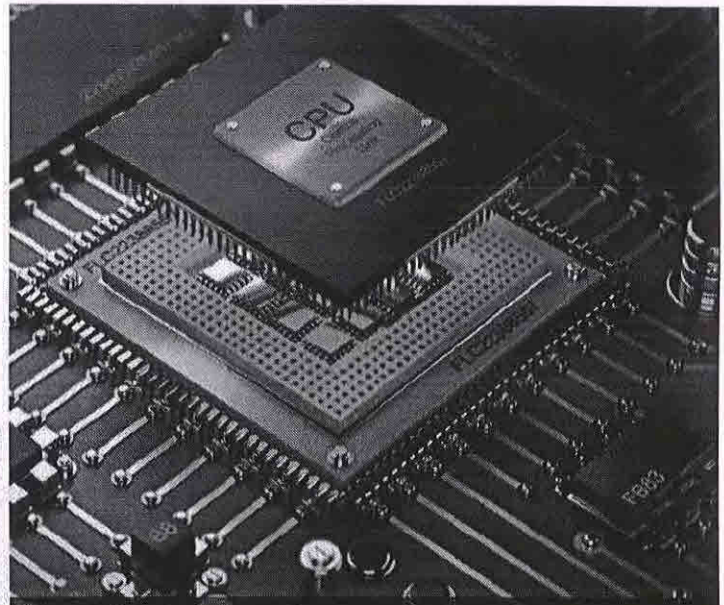
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REAL TIME EMBEDDED SYSTEMS

# REAL TIME EMBEDDED SYSTEMS

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# REAL TIME EMBEDDED SYSTEMS

FIRST EDITION

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## SYLLABUS

### UNIT I INTRODUCTION TO EMBEDDED SYSTEM DESIGN

Complex systems and microprocessors- Embedded system design process -Design example: Model train controller- Design methodologies- Design flows - Requirement Analysis - Specifications- System analysis and architecture design - Quality Assurance techniques - Designing with computing platforms - consumer electronics architecture - platform-level performance analysis.

### UNIT II ARM PROCESSOR AND PERIPHERALS

ARM Architecture Versions - ARM Architecture - Instruction Set - Stacks and Subroutines - Features of the LPC 214X Family - Peripherals - The Timer Unit - Pulse Width Modulation Unit - UART - Block Diagram of ARM9 and ARM Cortex M3 MCU.

### UNIT III EMBEDDED PROGRAMMING

Components for embedded programs- Models of programs- Assembly, linking and loading - compilation techniques- Program level performance analysis - Software performance optimization - Program level energy and power analysis and optimization - Analysis and optimization of program size- Program validation and testing.

### UNIT IV REAL TIME SYSTEMS

Structure of a Real Time System -- Estimating program run times - Task Assignment and Scheduling - Fault Tolerance Techniques - Reliability, Evaluation - Clock Synchronization.

### UNIT V PROCESSES AND OPERATING SYSTEMS

Introduction - Multiple tasks and multiple processes - Multirate systems- Preemptive real-time operating systems- Priority based scheduling- Interprocess communication mechanisms - Evaluating operating system performance- power optimization strategies for processes - Example Real time operating systems-POSIX-Windows CE. Distributed embedded systems - MPSoCs and shared memory multiprocessors. - Design Example - Audio player, Engine control unit - Video accelerator.

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**OBJECT ORIENTED  
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## PREFACE

The primary purpose of this book is to teach the Java programming language to an audience of beginners, but its progressive layout of tutorials increasing in complexity, it can be just as helpful for intermediate and experienced programmers. This book is designed for those readers who wish to start learning to program in an object-oriented programming language. It has been designed primarily as a first programming text. It is also suitable for those who already have some experience with another programming language, and who now wish to move on to an object-oriented one. The language we use to teach object-oriented programming is Java.

Since its arrival on the scene in 1995, the adoption of Java as a primary programming language has been amazing. In its favour at the time of its arrival were the facts that it was an object-oriented language, and that it offered a safer and more portable alternative to other languages. It also rode the wave of interest in the World Wide Web, with which it integrated well in its provision of applets. Since then, however, Java has come to be regarded as a genuine mainstream programming language.

**Programming Basics.** This deals with the basic ideas of problem solving with computers, including primitive data types, control structures, methods, and algorithm analysis.


**Object-Oriented Programming.** OOP is today's dominant programming paradigm. All the essentials of this subject are covered.

I dedicate this book to my family members. I also express my special thanks and gratitude to my husband for encouragement as well as support to complete this book.

Any valuable suggestions for the improvement of this book are welcome.

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MOBILE COMMUNICATION



# MOBILE COMMUNICATION

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# **MOBILE COMMUNICATION**

**FIRST EDITION**

**DR. AMAIRULLAH KHAN LODHI**

**DR. RAVINDER KORANI**

**DR. D. SUBBA RAO**

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OBJECT ORIENTED PROGRAMMING THROUGH JAVA



# OBJECT ORIENTED PROGRAMMING THROUGH JAVA

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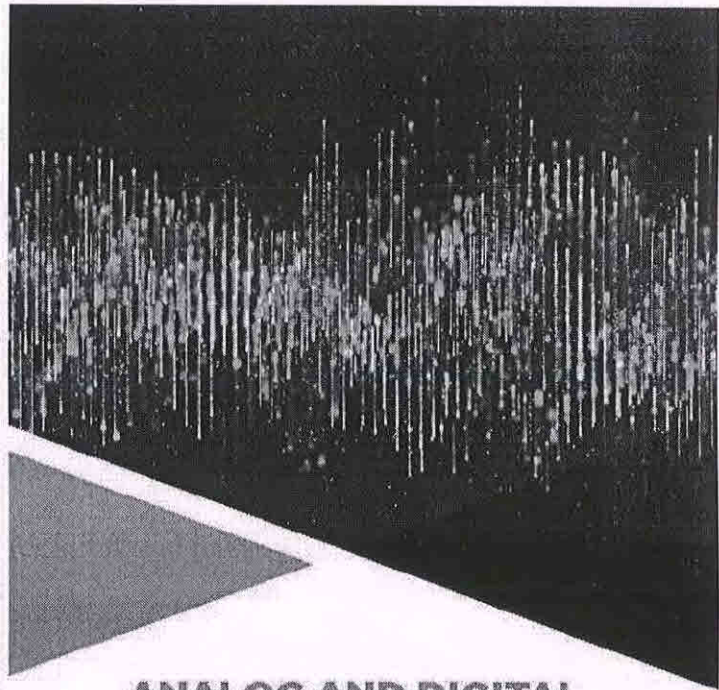


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ANALOG AND DIGITAL COMMUNICATION SYSTEM: THEORY, TECHNIQUES AND APPLICATION



# ANALOG AND DIGITAL COMMUNICATION SYSTEM: THEORY, TECHNIQUES AND APPLICATION

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**PRINCIPAL**  
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**DR.G.RAVIKUMAR**

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# SYLLABUS

## BASICS OF DIGITAL COMMUNICATION

Digital Communication signal processing – Typical Block diagram and transformations – Advantages over analog communication – Channels for Digital Communication – Telephone, Optical fiber, Satellite. Classification of Signals – Deterministic and random signals – Periodic and Non-Periodic signals – Analog and Discrete Signals – Energy and Power Signals – Unit Impulse Function. Information Capacity (Definition only) – Shannon's limit for information capacity (Definition only) – Data transmission – Serial and parallel transmission – Synchronous and asynchronous transmission.

## FORMATTING AND BASE BAND MODULATION

Base band system – The Sampling Theorem – Impulse sampling – Natural Sampling – Sample and Hold Operation – Spectra – Nyquist Theorem – Aliasing – Signal interface for a digital system – Sampling and quantizing effects – Quantization noise – Channel effects – channel noise – PCM – Uniform and Non-uniform Quantization.

## BASEBAND TRANSMISSION

PCM waveform types – non return-to-zero (NRZ) – return-to-zero (RZ) – Phase encoded – Multilevel binary – Spectral attributes of PCM waveforms – Bits per PCM word and Bits per symbol – PCM word size – M-ary pulse modulation waveforms.

## BASEBAND CODING TECHNIQUES

Rationale for coding – Types of codes – Discrete memoryless channel – Error control coding methods – forward error correction – error detection with retransmission – types of errors – random error and burst error – Principles of linear block codes - Hamming code – Binary cyclic codes – Cyclic Redundancy Check code (CRC) – Convolution code.

## DIGITAL MODULATION TECHNIQUES

Digital modulation Techniques – Listing of various types – Coherent binary modulation techniques – Coherent quadrature modulation techniques – Non Coherent binary modulation techniques – Minimum Shift Keying (MSK) – Block diagram of MSK transmitter and receiver – TDM – Frame Structure, ASCII Framing – E1 Framing, T1 Framing for Telephone. Detection of signals – Coherent detection of PSK – Sampled matched filter – Coherent detection of FSK – Non-coherent detection – Binary differential PSK

## SPREAD SPECTRUM TECHNIQUES

Spread spectrum communication – Beneficial attributes of spread spectrum systems – Pseudo noise sequences – Randomness properties – Balance property, Run property and Correlation property – Direct sequence spread spectrum systems – Processing gain and performance – Frequency hopping systems – Frequency hopping with diversity - fast hopping versus slow hopping – Synchronization – Jamming consideration – Commercial application – CDMA Digital Cellular System.



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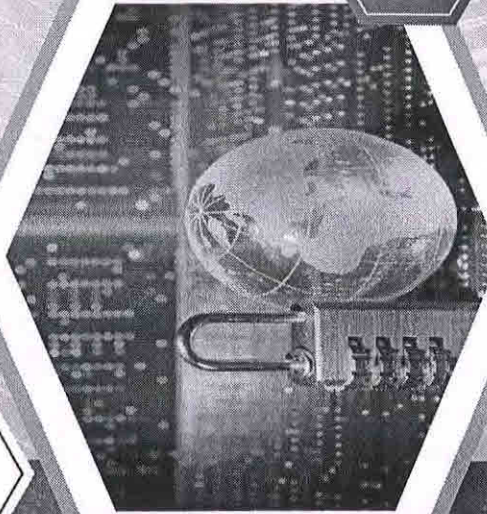
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## PREFACE

The main goal of this “**Cryptography and Network Security**” gives an immense knowledge for the readers belongs to M.Tech, M.C.A, M.Sc (CS, IT), B.Tech, B.Sc (computer science, IT) and Research Scholars. Especially this book has been written in a articulate manner and packed with target of all Engineering and Science Students.

Cryptography and Network Security are used from Ancient days to transfer the data with confidentiality (e.g., encryption) in different kinds of methods like linguistic and lexicographic patterns and later it turns in heavily based on mathematical theory and computer science. In practice, crypto graphical algorithms are designed around computational hardness assumptions.

This book is designed and written for easily understandable and it covers almost all important topics. The book has been divided into five chapters.

**Chapter 1** : Introduction, OSI Security Architecture, Classical encryption techniques, Cipher Principles – Data encryption standards (DES), Block cipher design principles, and modes of operations.

**Chapter 2** : public key cryptography, key management, Diffie-Hellman Key exchange, Elliptical curve architecture and cryptography, introduction to number theory, confidentiality using symmetric key encryption, public key cryptography and RSA.

**Chapter 3** : Authentication and Hash function, Requirements and Authentication function, Message Authentication codes, Hash functions.

**Chapter 4** : Network security, Authentication applications, Kerberos, X.509, Authentication services, electronic Mail security, PGP- S/Mime, IP Security, Web Security.

**Chapter 5** : System level security, Intrusion Detection, password management, virus and Related threats, virus counter measure, firewall- design principles, trusted systems

  
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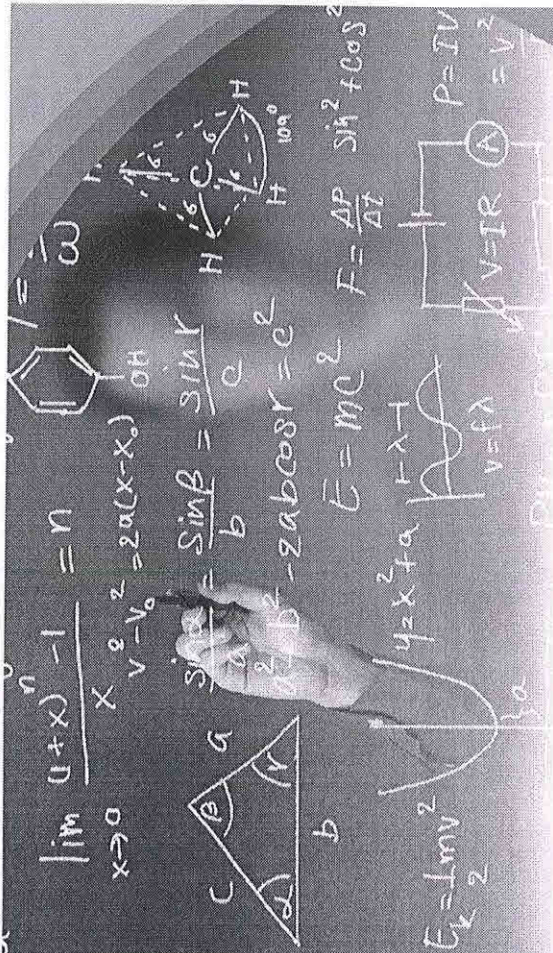
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## PREFACE

*This book "Introduction to Mathematics" has written for First Year (First Semester) B.C.A., Students, which is presented in a lucid way so that each and every student understand the subject easily. All problems have been solved for the benefit of students with a lot of care. We hope this book help the student to come out successfully with flying colours.*

*To achieve success in life study is the most important thing, which is used to recognize the talent that can be accompanied in achieving the goal. In the present cut - throat competition the student has to choose the best publication of the industry where they are obligatory.*

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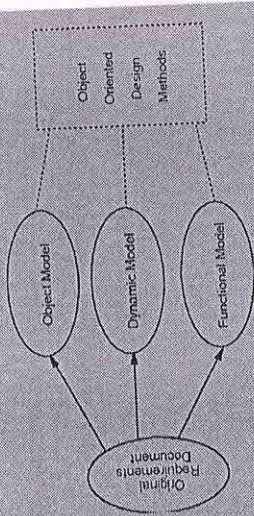
  
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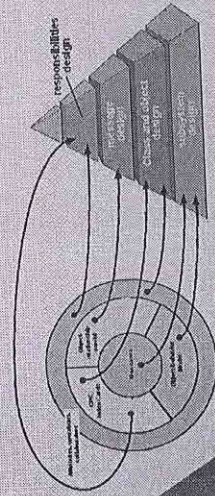
  
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*Thank you for regarding this book. This is a practical introduction to object oriented analysis and design (OOA/D) and to related aspects of interactive development.*

*The use of object technology has to development of software and mastery of OOA/D is critical for you to create robust and maintainable object systems.*

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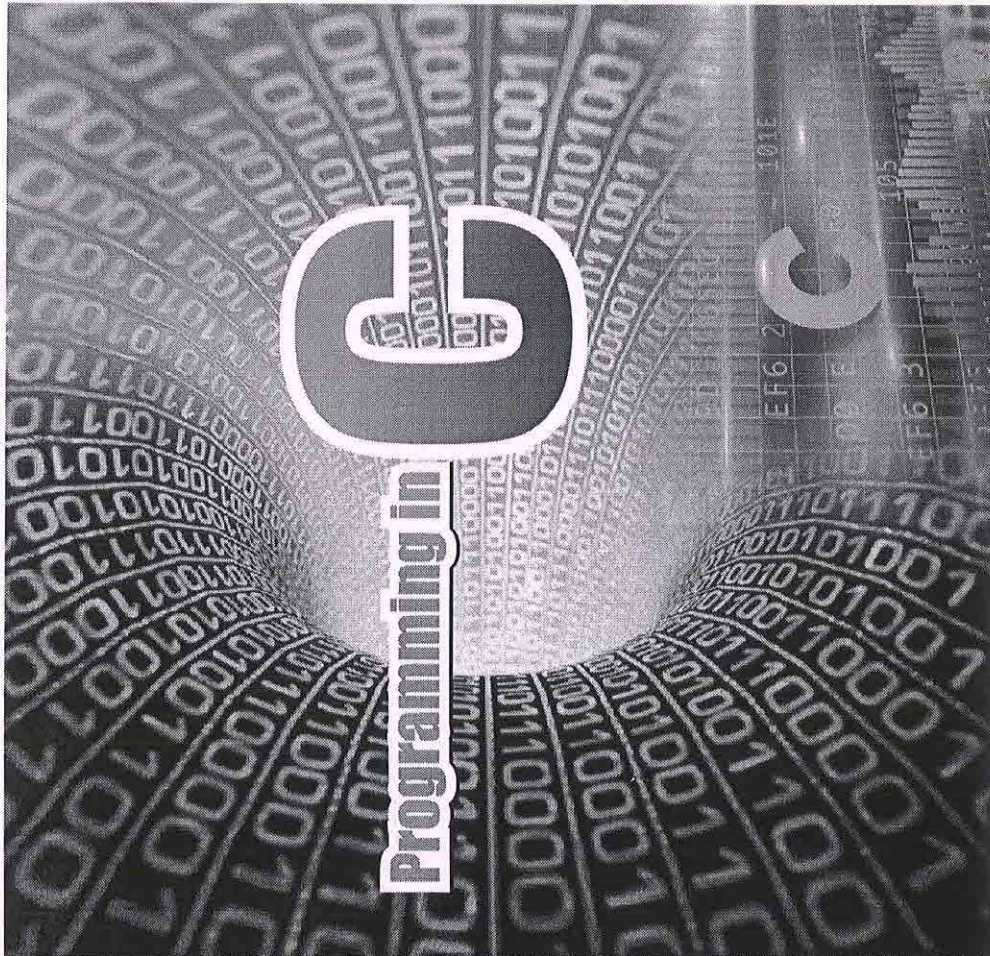
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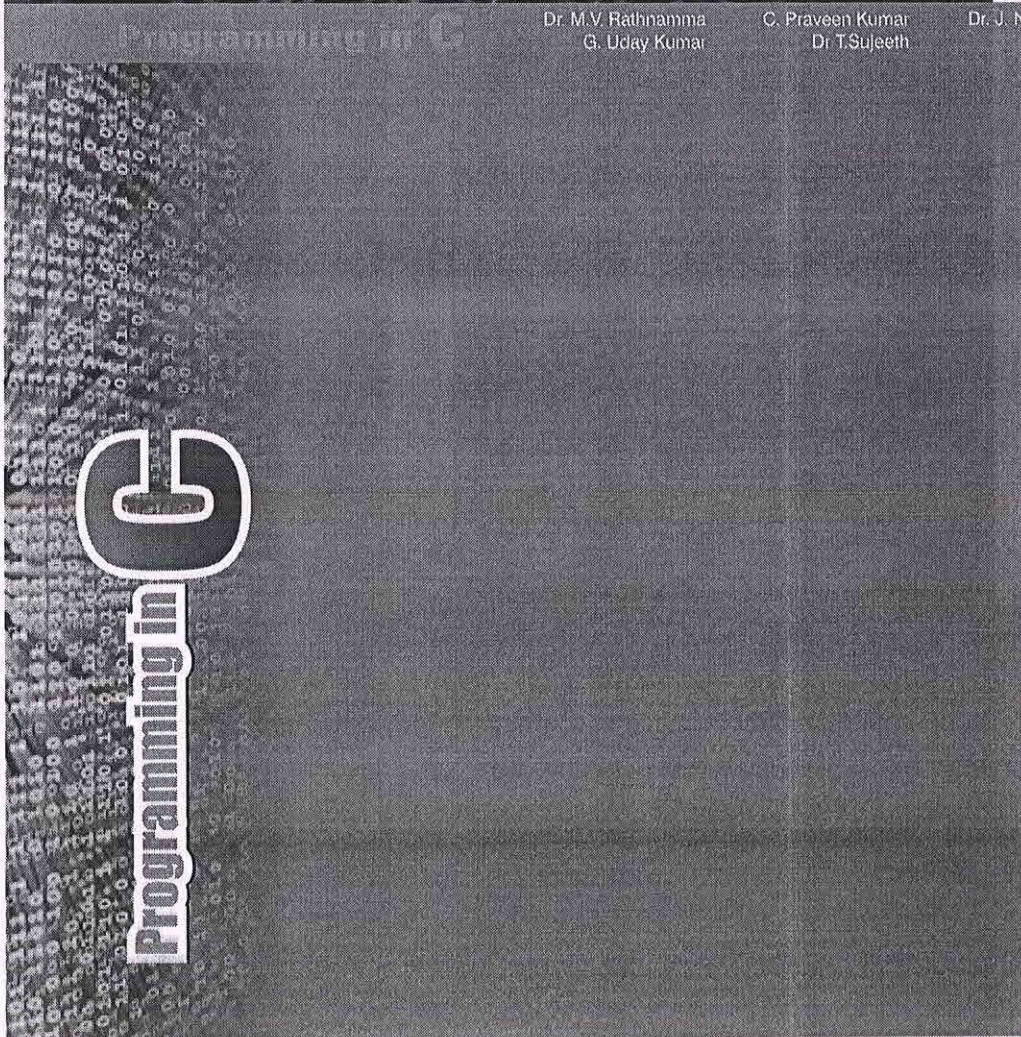
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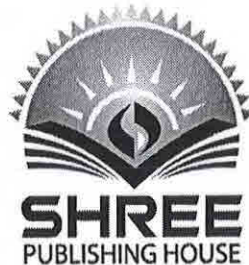
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## PREFACE

*It is not hyperbole to mention that information technology (IT) is one of the most remarkable inventions of the 20th century. Globalization and the recent inventions, innovations and advancements in the field of science and technology have made a commendable contribution to the emergence of IT as major integrating factor in all field of the today's technical, professional and globalised world. Without IT. It is not possible to imagine the existence of the today's Scientific and technical world and there is no branch of science which does not require the applications of IT which testifies to the significance of IT in the modern world. To achieve proficiency and excellence in IT, one must acquire strong command and comprehensive knowledge over basic computer fundamentals and C Language, the mother of all Computer Programming language. This book has been prepared Scrupulously according to the revised syllabus of Programming in C language prescribed for the undergraduate students. The preparation of this book involves utmost meticulousness, dexterity, sincerity, honesty, dedication, commitment and care towards the requirements of the students several examples and practical exercises have been incorporated in this book. This book consists of the comprehensive coverage of C language which is according to the revised syllabus of CBCS being implemented from this academic year. This book consisting of the comprehensive coverage of common computer fundamentals and C language is expected to cater to the requirements of all the undergraduate students and prove to be highly beneficial and Practical Oriented to all Students in their preparation for the semester examinations.*

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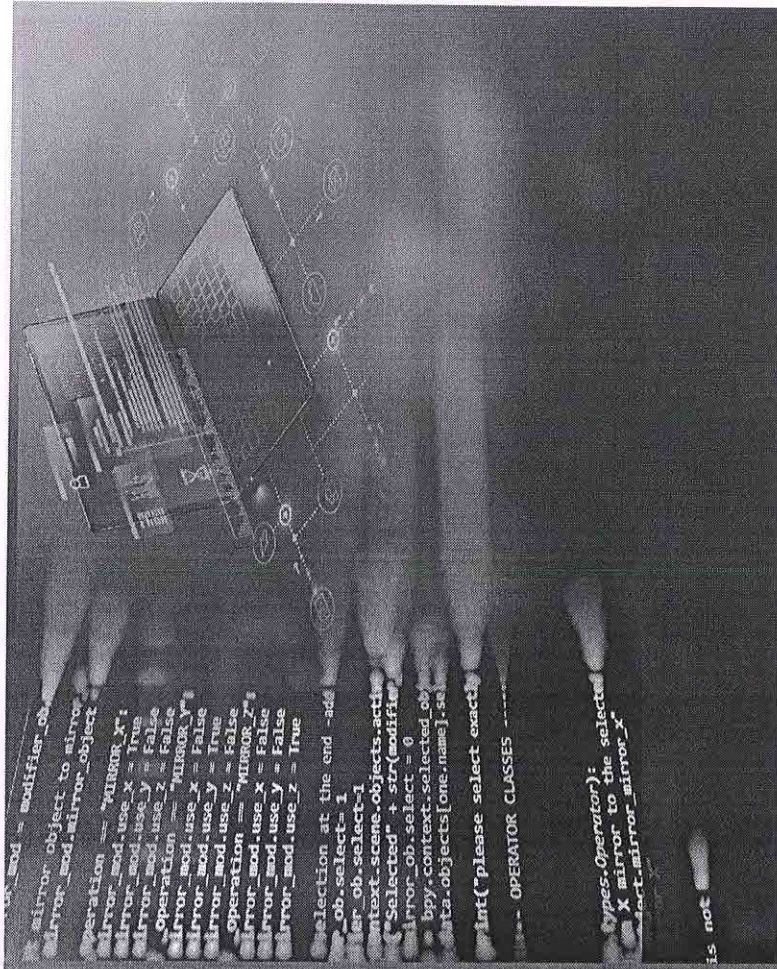


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## PREFACE

*We have great pleasure in presenting the book "Software Engineering" written for students of all autonomous bodies and the universities and its affiliated Colleges of Andhrapradesh. I hope that this book will certainly prove to be highly beneficial to the students appearing for the examinations. The subject matter is written in a simple and easily understandable language.*

*This book on software engineering is written in a simple and concise manner to cover all aspects of software development and maintenance. Software Engineering provides the software engineering fundamentals, principles, and skills needed to develop and maintain high-quality software products. The software engineering processes and techniques covered include requirements specification, design, implementation, testing, and management of software projects.*

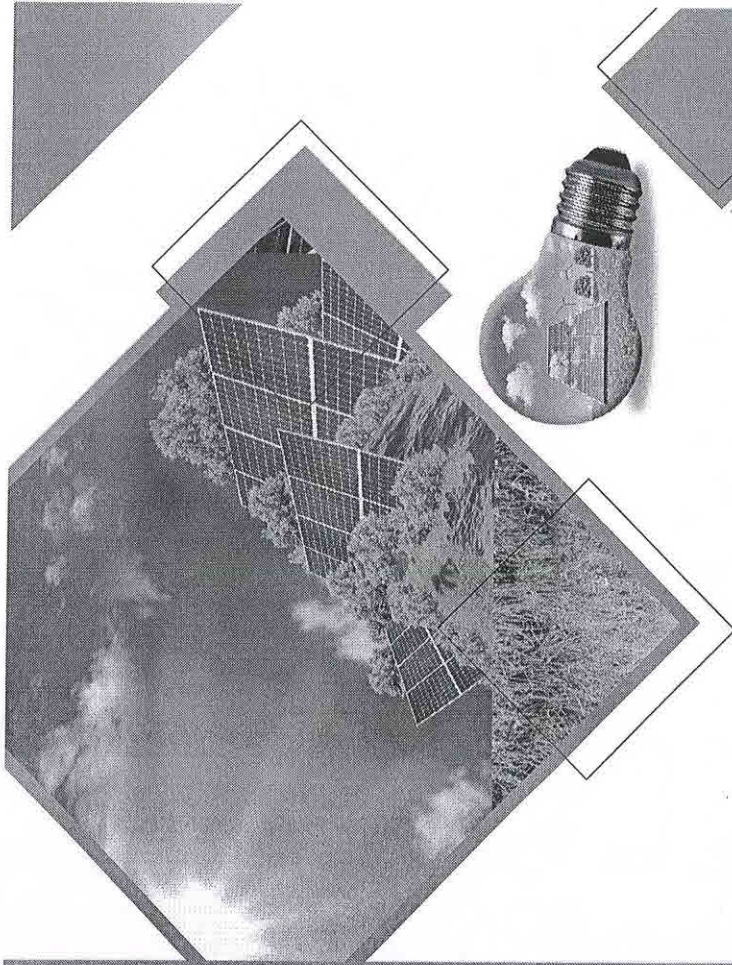
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## PREFACE

This book is first of its kind for the new syllabus adapted by Higher Education institutions in the Telugu states 2021 onwards. This book provides sufficient support for undergraduate students to learn about different kinds of energies, both renewable and non-renewable; Solar energy, its applications and future prospects who prefer to learn it as a skill enhancement course. We have tried to give an insight into few topics related to the modern technologies relevant to different energies available and in particular, solar energy and appliances which is understandable to non-Physics students as well. The topics included are as per the syllabus mentioned and few other relevant topics also have been added with more photographs to make the students get a clear idea of the technologies, processes and principles involved therein.

This book contains three units (chapters) each with the topics related to solar energy and its applications.

Unit 1: Solar Radiation – Types of energy resources-renewable and non-renewable along with graphical representation has been given. The basics of wave, frequency and energy related to it have been included with diagrams and necessary equations. This unit describes the solar energy as one of the best renewable sources of energy for our use both in domestic and industrial purposes. Measuring the solar energy and its storage using different devices has been explained in detail with the help of photographs and diagrams.

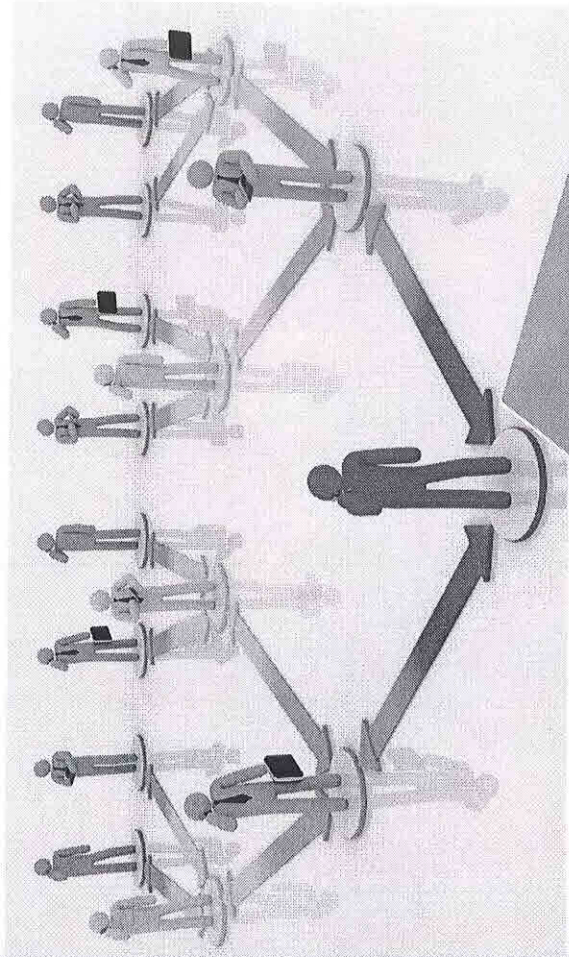
Unit 2: Solar Thermal Systems–The process of calculating heat energy in a radiation with an approach to black body radiation has been mentioned. The process of conversion of solar energy into heat and electricity for various applications has been described with the help of techniques and appliances. Solar power as the next generation energy resource or as an alternative to fossil fuels has been explained. Using greenhouse effect for the enhanced yield of food crops has been mentioned along with relevant pictures. Purification of water using solar stills or distillers is also a wonderful technique and has a vast application across the world.

Unit 3: Solar Photovoltaic Systems –Definition of photovoltaic effect, basic principle, types of photovoltaic cells, their construction and working, solar panels as photovoltaic devices, types, their advantages, disadvantages and applications have been mentioned along with necessary examples and mathematical expressions. Day to day use of solar cells has been clearly picturized.

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## PREFACE

*There is a Japanese saying that goes, "When you're dying of thirst, it is too late to think about digging a well." This saying exalts the importance of strategic management to success in any endeavour. The advent of Liberalisation, Privatisation and Globalisation, corporate can operate successfully by creating and delivering superior value to target customers and also learning how to adapt to a continuously changing environment. So to cope up with changing conditions in their industries, companies need to be farsighted and visionary, and must develop long term strategies.*

*I am glad to present the First Edition of this book, especially designed to serve the needs of first B.Com., students of Mangalore University. This book is an effort of four authors to give broad information to the readers in order to clear the doubts on various aspects of Strategic Management and Organisational Behaviour. The idea of this book is developed in tune with the syllabus of All Universities. The book is self-explanatory and adopts the "Teach Yourself" style.*

*The contents of this book are immensely drawn from many standard books, websites and also includes suggestions of leading Chartered Accountants. I am enormously indebted to all those writers of books and articles. I am not claiming any originality in this book.*

*Yet, this book is an original in the exposition and presentation of the subject matter.*

**-Authors**

  
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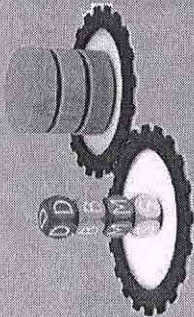
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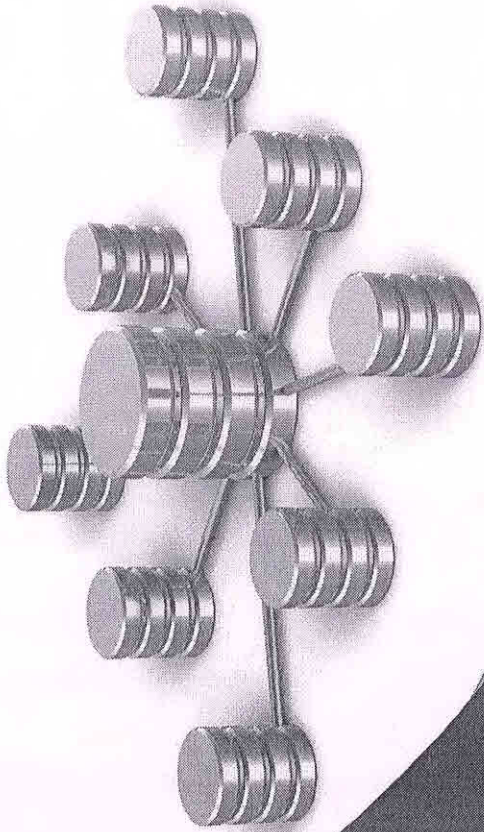
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## PREFACE

*Information is a valuable resource to an organization. Computer software provides an efficient means of processing information and database systems are becoming an increasingly common means by which it is possible to store, process and retrieve information in an effective manner.*

*The Database Management System is a computer science core subject which explains how data is managed for applications which are used in our day to day life such as Railway Reservation systems, Banking systems, Online applications, Pharma applications, Medical applications etc.*

*The Database Management System has been written according to the syllabus of various Universities under CBCS system, which is suitable for all Degree graduates and explained with the help of simple examples and diagrams.*

*The Book contains Overview of DBMS, Entity Relationship model, Relational model, Structured Query Language and PL/SQL.*

**- Authors**

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## PREFACE

*Chemistry is not only a fascinating subject, but also a mystery to be unravelled. The beauty of Chemistry is not that something occurs, but rather 'Why' it occurs. Understanding 'Why' enlightens us and enriches our life.*

*To keep in pace with the recent developments in the field of science and technology, the B.Sc Chemistry syllabus is revised. In this context, the senior Chemistry teachers of all affiliated colleges have come up with the idea of bringing out Chemistry text books for the NEP syllabus - 2021. Our aim is to kindle the interest among students and to make their learning process pleasant and rewarding.*

*This Text Book is the outcome of lecturing material developed and constantly updated by the senior Chemistry teachers. The subject matter is discussed in eleven Chapters. Much care is taken in explaining the concepts, principles and subject matter.*

*Explanation is cut short without sacrificing the quality of contents. In order to give ample insight into the topics, a number of typical problems are worked out, illustrative diagrams are given.*

*We hope that this book will serve the needs of the students as well as the teachers.*

**- Authors**

*SCPT*  
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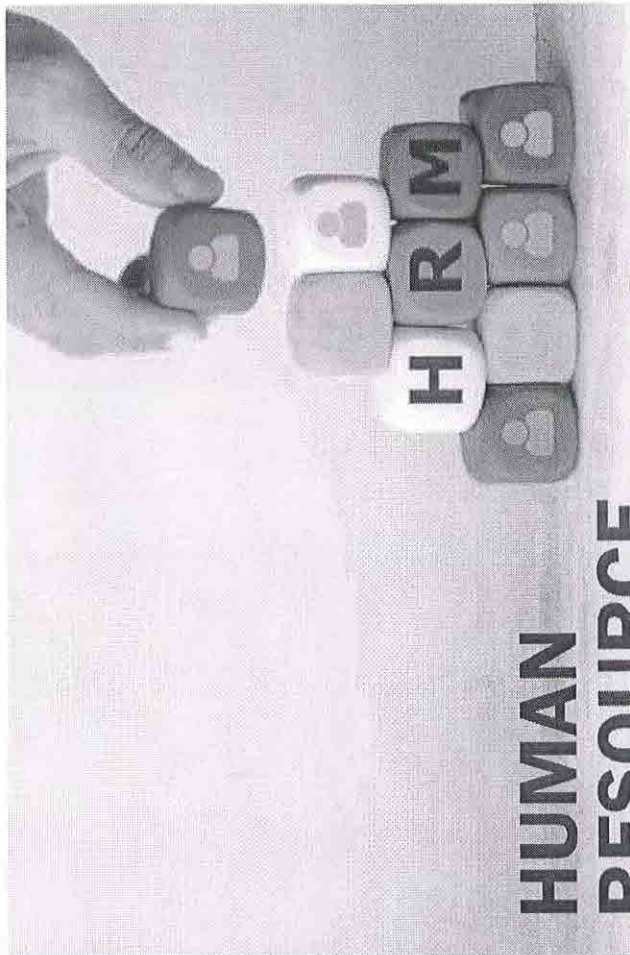
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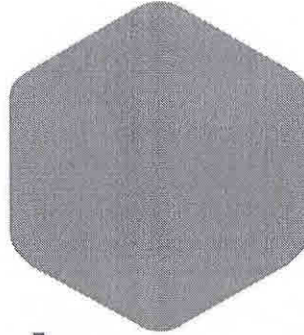
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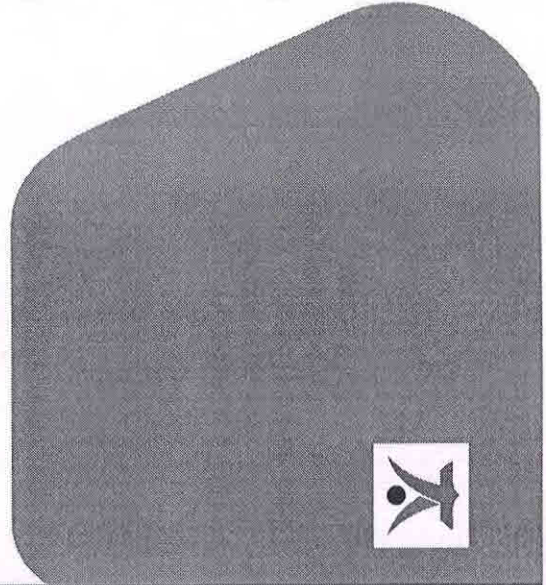
# HUMAN RESOURCE MANAGEMENT



# HUMAN RESOURCE MANAGEMENT



Dr. C. D Rajaganapathy  
Vekadoth Ramesh  
Dr. Bandela Sunil Kumar  
Kaviitha Kottee  
T. Venkatesh



HUMAN RESOURCE MANAGEMENT

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## PREFACE

*Human resource management (HRM or HR) is the strategic approach to the effective and efficient management of people in a company or organization such that they help their business gain a competitive advantage. It is designed to maximize employee performance in service of an employer's strategic objectives. Human resource management is primarily concerned with the management of people within organizations, focusing on policies and systems. HR departments are responsible for overseeing employee-benefits design, employee recruitment, training and development, performance appraisal, and reward management, such as managing pay and employee benefits systems. HR also concerns itself with organizational change and industrial relations, or the balancing of organizational practices with requirements arising from collective bargaining and governmental laws.*

*Study of Human Resource Management also has very optimistic impact in our Defence forces. Hence the courses of degree in HRM and PG Diploma in HRM will be considerable helpful for the participants of armed forces. This book will definitely be supportive to all students to understand basic concepts of HRM, Labour Laws and Industrial Relations. I am thankful to all Senior Officers of Armed Forces those who have requested me regularly to publish a book relevant to BA(HRM) and PG Diploma in HRM in a very modest language to understand the concept easily even by the bottommost line participants.*

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**- Authors**

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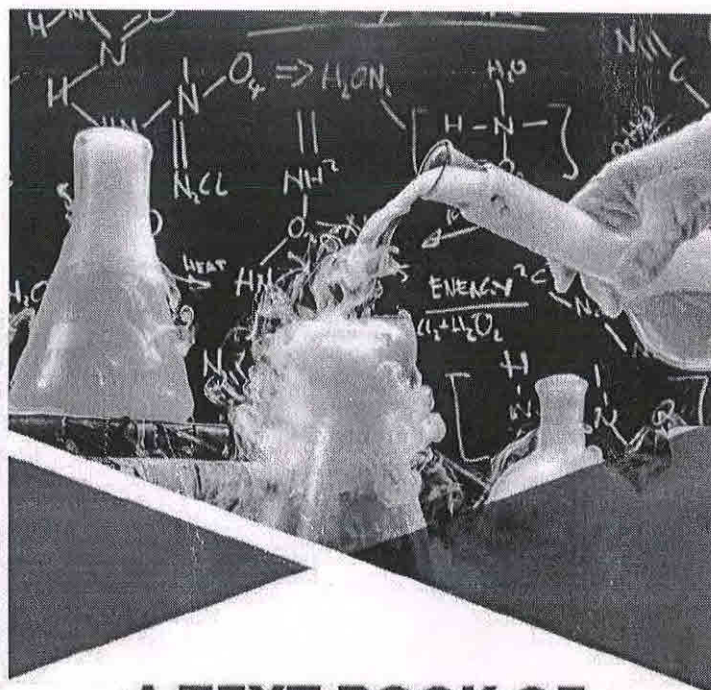
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Any attempt at any level can't be satisfactorily completed without our students' collaborative effort, resulting in our Book being unique.

  
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## SYLLABUS

### UNIT I WATER AND ITS TREATMENT

Hardness of water - types - expression of hardness - units - estimation of hardness of water by EDTA - numerical problems - boiler troubles (scale and sludge) - treatment of boiler feed water - Internal treatment (phosphate, colloidal, sodium aluminate and calgon conditioning) external treatment - Ion exchange process, zeolite process - desalination of brackish water - Reverse Osmosis.

### UNIT II SURFACE CHEMISTRY AND CATALYSIS

Adsorption: Types of adsorption - adsorption of gases on solids - adsorption of solute from solutions - adsorption isotherms - Freundlich's adsorption isotherm - Langmuir's adsorption isotherm - contact theory - kinetics of surface reactions, unimolecular reactions, Langmuir - applications of adsorption on pollution abatement. Catalysis: Catalyst - types of catalysis - criteria - autocatalysis - catalytic poisoning and catalytic promoters - acid base catalysis - applications (catalytic convertor) - enzyme catalysis - Michaelis - Menten equation.

### UNIT III ALLOYS AND PHASE RULE

Alloys: Introduction- Definition- properties of alloys- significance of alloying, functions and effect of alloying elements- Nichrome and stainless steel (18/8) - heat treatment of steel. Phase rule: Introduction, definition of terms with examples, one component system -water system - reduced phase rule - thermal analysis and cooling curves - two component systems - lead-silver system - Pattinson process.

### UNIT IV FUELS AND COMBUSTION

Fuels: Introduction - classification of fuels - coal - analysis of coal (proximate and ultimate) - carbonization - manufacture of metallurgical coke (Otto Hoffmann method) - petroleum - manufacture of synthetic petrol (Bergius process) - knocking - octane number - diesel oil - cetane number - natural gas - compressed natural gas (CNG) - liquefied petroleum gases (LPG) - power alcohol and biodiesel. Combustion of fuels: Introduction - calorific value - higher and lower calorific values- theoretical calculation of calorific value - ignition temperature - spontaneous ignition temperature - explosive range - flue gas analysis (ORSAT Method).

### UNIT V ENERGY SOURCES AND STORAGE DEVICES

Nuclear fission - controlled nuclear fission - nuclear fusion - differences between nuclear fission and fusion - nuclear chain reactions - nuclear energy - light water nuclear power plant - breeder reactor - solar energy conversion - solar cells - wind energy. Batteries, fuel cells and supercapacitors: Types of batteries - primary battery (dry cell) secondary battery (lead acid battery, lithium-ion-battery) fuel cells -  $H_2$ - $O_2$  fuel cell.

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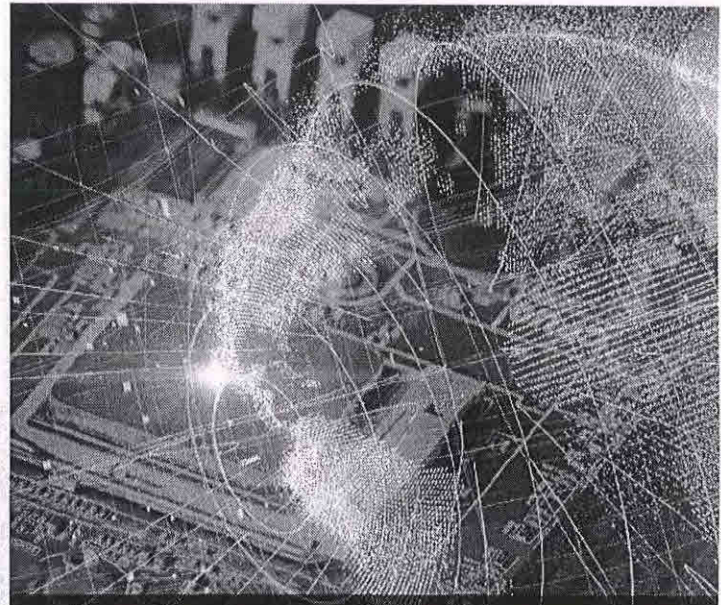
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PERSONNEL AND HUMAN RESOURCE MANAGEMENT

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Dr. D. Rose Mary

Dr. Ravi Sankar Kummata

Dr. K.S.Mukherjee



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# Acknowledgment

First and foremost, praises to God, the Almighty, for his immense shower of blessing and kindness throughout the work and has allowed us to finish successfully.

We are sincerely grateful to our Institution Management, Director, Principal, Faculties, Students, and all our family members for providing continuous support and motivation during the work.

We would also like to take the opportunity to express our special thanks of gratitude to the publisher for providing a golden chance by giving us the most awaited platform to showcase our novel work.

Any attempt at any level can't be satisfactorily completed without our students' collaborative effort, resulting in our Book being unique.

  
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# Preface

In today scenario, the concept of Human Resource which was primarily accountable for the organizational function has been replaced by “Human Capital Management” concept. To be successful in effectively handling such a labor force, employers, managers and supervisors need to be up to date with the current trends as well as possess a strong theoretical foundation of human resource practices. The contents of Human Resource Management have been developed, therefore, to provide students as well as practicing managers with all-inclusive, comprehensive information in a highly readable and explicable form. Besides adopting a user friendly system, each chapter in the book has several exclusive real-life examples to hold up its theoretical argument and help readers recognize the subject matter easily.

Many organizations are struggling to change the HR processes and technologies. New thinking and a new vision and mission are required to achieve business success. All competitive business factors have become commoditized and talent is the ultimate driving factor for business success. The communities of the HR professionals are looking forward to “Talent Acquisition & Retention”. Talent attainment is being viewed as selecting and nurturing the talent. The best talent within an organization should be made inward-looking to the outside world so that the loyalty or productive employee is ensured on a permanent basis to an organization. The strategic human resource initiatives needed by the organization can help the organization realize the institutional talent goals and help to contribute to the higher performance and build future institutional capacity.

Each chapter highlights changes in HR in the recent times and addresses key challenges for effective management of people: managing for creativity and innovation; attracting and retaining talent and managing for sustainability and identifying new directions for HRM.

For instructors, the text includes numerous pedagogical features such as extensively updated case study material that provides a sound basis for teaching and for students, it successfully reinforces the link between theory, practice and critical thinking and current examples relevant from the present industry.

The book aims to focus on one of the most important assets in organizations the people. It is our sincere hope that you will find this book comprehensive, simple and easy to follow and as a useful tool to support your studies.

**SYLLABUS**  
**HUMAN RESOURCE MANAGEMENT**

**CHAPTER-I: HUMAN RESOURCE FUNCTION**

Human Resource Philosophy - Changing environments of HRM - Strategic human resource management - Using HRM to attain competitive advantage - Trends in HRM - Organisation of HR departments - Line and staff functions - Role of HR Managers.

**CHAPTER-II: RECRUITMENT & PLACEMENT**

Job analysis: Methods - IT and computerised skill inventory - Writing job specification - HR and the responsive organisation. Recruitment and selection process: Employment planning and forecasting - Building employee commitment : Promotion from within - Sources, Developing and Using application forms - IT and recruiting on the internet. Employee Testing & selection : Selection process, basic testing concepts, types of test, work samples & simulation, selection techniques, interview, common interviewing mistakes, Designing & conducting the effective interview, small business applications, computer aided interview.

**CHAPTER-III: TRAINING & DEVELOPMENT**

Orientation & Training: Orienting the employees, the training process, need analysis, Training techniques, special purpose training, Training via the internet. Developing Managers: Management Development - The responsive managers - On-the-job and off-the-job Development techniques using HR to build a responsive organisation. Management Developments and CD-Roms - Key factor for success. Performance appraisal: Methods - Problem and solutions - MBO approach - The appraisal interviews - Performance appraisal in practice. Managing careers: Career planning and development - Managing promotions and transfers.

**CHAPTER-IV: COMPENSATION & MANAGING QUALITY**

Establishing Pay plans : Basics of compensation - factors determining pay rate - Current trends in compensation - Job evaluation - pricing managerial and professional jobs - Computerised job evaluation. Pay for performance and Financial incentives : Money and motivation - incentives for operations employees and executives - Organisation wide incentive plans - Practices in Indian organisations. Benefits and services : Statutory benefits - non-statutory (voluntary) benefits - Insurance benefits - retirement benefits and other welfare measures to build employee commitment.

**UNIT V: LABOUR RELATIONS AND EMPLOYEE SECURITY**

Industrial relation and collective bargaining : Trade unions - Collective bargaining - future of trade unionism. Discipline administration - grievances handling - managing dismissals and separation. Labour Welfare : Importance & Implications of labour legislations - Employee health - Auditing HR functions, Future of HRM function.

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## AUTHORS PROFILE



Dr. Shaik Saidulu, working as a professor in the ECE department at Shaikhan College of Engineering and Technology, Hyderabad. His specializations are Embedded Systems, IoT, Wireless technology and protocols. He is having more than 15 years of teaching experience along with Outcome Based Education (OBE) and academic excellence. He has published more than 50 research papers in peered International Journals and conferences. He got 4 awards in career. He published 2 patents and waiting for award. (Thanks to my colleagues, HOD and principal for their continuous support and encouragement. This book is dedicated to my beloved family members Shaik Inam Khasim-hi(wife), Master Aquil Sameer(son) and baby Sana Tabassum (daughter).



Dr. Maznu Shaik, PhD in ECE faculty (Radar Signal Processing) from JNTUK, MTech (D.S.C. E) JNTU, in the year 2006, B. Tech (ECE) JNTU, in the year 2001, Presently working as an Associate Professor in ECE department in Vdya Jyothi Institute of Technology, Aziz Nigat, Hyderabad-500075. 20 years of Teaching experience, 6 years of research experience, he researches interests in radar signal processing, VLSI and Embedded Systems. He published 10 International Scopus and UGC Journals. He is a Life fellow of IETE. He has handled B. Tech projects more than 30, MTech projects more than 10, published 3 International and IEEE conferences, achieved young research award in ICETE conference in the year 2012. He has Conducted National Symposia, conferences and workshops. He has attended more than 20 workshops as well as guest faculty.




Prof. A. Mohan received his B. Tech, degree in Electronics and Communication Engineering from V. R. Siddhartha Engineering College, Nagarjuna University, Vijayawada, Andhra Pradesh, India. He finished his MTech in Electronics and Communication Engineering from JNTUK, Kakinda, Andhra Pradesh, India. Presently He is working as a Professor in ECE Department in Guru Nanak Institutions Technical Campus, Hyderabad. Earlier He worked in VLSI Industry in Chip logic (PVT) Ltd, Hyderabad and DCM Technologies, Gurgaon, Haryana. He is having Total Experience (VLSI Industry and Teaching) of 23 Years. He is having the membership in the professional bodies like International Association of Engineers (IAENG). He has published 20 papers in International Journals and 7 papers in International Conferences. He has 05 Indian Patent Publications and 01 Australian Patent Grant. He is the Editor of the IASR Journals:

1. International Journal of Electronics and Communications.
2. International Journal of Signal Processing, Embedded Systems and VLSI Design



Maguluri Pravallika, working as an assistant professor in the ECE department at Siddhartha Institute of Engineering and Technology, Vinobha Nagar Hyderabad. Her specializations are Embedded Systems, IoT, Wireless technology and protocols. She is having more than 3 years of teaching experience along with Outcome Based Education (OBE) and academic excellence. She has published more than 5 research papers in peered International Journals and conferences. I thank to my colleagues, HOD and principal for their continuous support and encouragement. This book is dedicated to my beloved family members Maguluri Madhava Rao(Father), Maguluri Jayanti(Mother)

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WIRELESS SENSOR NETWORKS TECHNOLOGY, PROTOCOLS AND APPLICATIONS

# WIRELESS SENSOR NETWORKS TECHNOLOGY, PROTOCOLS AND APPLICATIONS

DR SHAIK SAIDULU  
DR MAZNU SHAIK  
PROF. ASHWALA MOHAN  
MAGLURI PRAVALLIKA



  
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# Wireless sensor networks: Technology, protocols and applications

**FIRST EDITION**

**Dr.SHAIK.SAIDULU**

**Dr. MAZNU SHAIK**

**Prof. ASHWALA MOHAN**

**Ms. M. PRAVALIKA**



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**TITLE OF THE BOOK: Wireless sensor networks:  
Technology, protocols and applications**

**Edition: First – 2022**

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## PREFACE

The world's telecommunications business has changed dramatically during the last three decades. Wireless communications have grown rapidly, as seen by the large spread of mobile systems. Wireless communications have progressed from first generation (1G) systems that were largely focused on voice communications to third generation (3G) systems that deal with internet connectivity and multi-media applications. Wireless personal area networks (WPANs), wireless local area networks (WLANs), and wireless wide area networks (WWANs) will be connected by fourth generation (4G) technologies (WWANs)

**CHAPTER 1** - Wireless LAN is proposed as a substitute for wiring inside buildings. IEEE802.11, HyperLAN2, and Bluetooth are used here. A unique feature of HiperLAN2 is the ability to provide quality of service (QoS), which means that the system can guarantee specific characteristics such as bandwidth or error rates.

**CHAPTER 2-** It primarily demonstrates mobile IP, which is the expansion of the internet protocol (IP) into the mobile domain. Ad-hoc networks with specialized routing protocol needs are also supported.

**CHAPTER 3** – This chapter discusses The future networks will support phone, video, and data all at the same time. Third generation (3G) networks for multimedia communications are presently being created as a result of technological advancements.

**CHAPTER 4** – It focuses on wireless wide area network (WWAN) and high speed downlink packet access (HSDPA) –LTE network architecture and protocol

**CHAPTER 5-** It goes through 4G Vision, constraints, and smart antenna approaches.

  
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## **OBJECTIVES:**

### **The student should be made:**

- To understand the concept about Wireless networks, protocol stack and standards
- To understand and analyse the network layer solutions for Wireless networks
- To study about fundamentals of 3G Services, its protocols and applications
- To have in depth knowledge on internetworking of WLAN and WWAN
- To learn about evolution of 4G Networks, its architecture and applications

## **SYLLABUS:**

### **UNIT I WIRELESS LAN**

Introduction-WLAN technologies: - IEEE802.11: System architecture, protocol architecture, 802.11b, 802.11a – Hiper LAN: WATM, BRAN, HiperLAN2 – Bluetooth: Architecture, WPAN –IEEE 802.15.4, Wireless USB, Zigbee, 6LoWPAN, WirelessHART

### **UNIT II MOBILE NETWORK LAYER**

Introduction - Mobile IP: IP packet delivery, Agent discovery, tunneling and encapsulation, IPV6-Network layer in the internet- Mobile IP session initiation protocol - mobile ad-hoc network: Routing: Destination Sequence distance vector, IoT: CoAP

### **UNIT III 3G OVERVIEW**

Overview of U-TMS Terrestrial Radio access network-UMTS Core network Architecture:3GPP Architecture, User equipment, CDMA2000 overview- Radio and Network components, Network structure, Radio Network, TD-CDMA, TD – SCDMA.

### **UNIT IV INTERNETWORKING BETWEEN WLANS AND WWANS**

Internetworking objectives and requirements, Schemes to connect WLANS and 3G Networks, Session Mobility, Internetworking Architecture for WLAN and GPRS, System Description, Local Multipoint Distribution Service, Multichannel Multipoint Distribution System.

### **UNIT V 4G & Beyond**

Introduction – 4G vision – 4G features and challenges - Applications of 4G – 4G Technologies: Multicarrier Modulation, Smart antenna techniques, IMS Architecture, LTE, Advanced Broadband Wireless Access and Services, MVNO.



## **OUTCOMES:**

Upon completion of the course, the student would be able to:

- Conversant with the latest 3G/4G networks and its architecture.
- Design and implement wireless network environment for any application using latest wireless protocols and standards.
- Ability to select the suitable network depending on the availability and requirement.
- Implement different type of applications for smart phones and mobile devices with latest network strategies.

  
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### 7.1.4 Water conservation facilities available in the Institution

#### Geo-tagged Photographs of the Facilities

#### INDEX

S.No.	Details	Pg. No.
1	Rain water harvesting	1
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3	Construction of tanks and bunds	2
4	Waste water recycling	3

  
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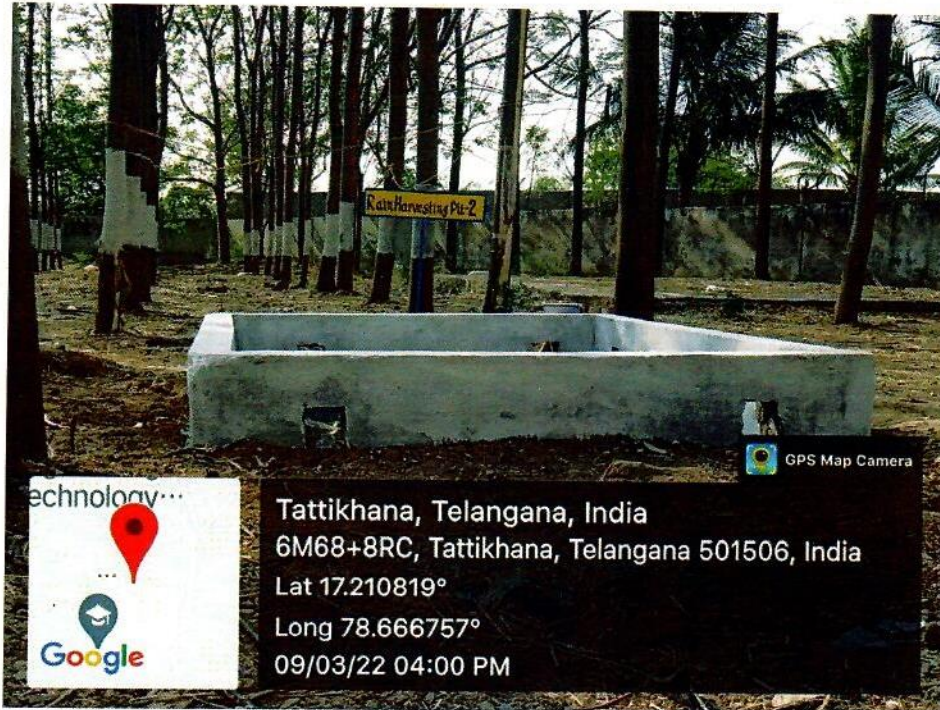
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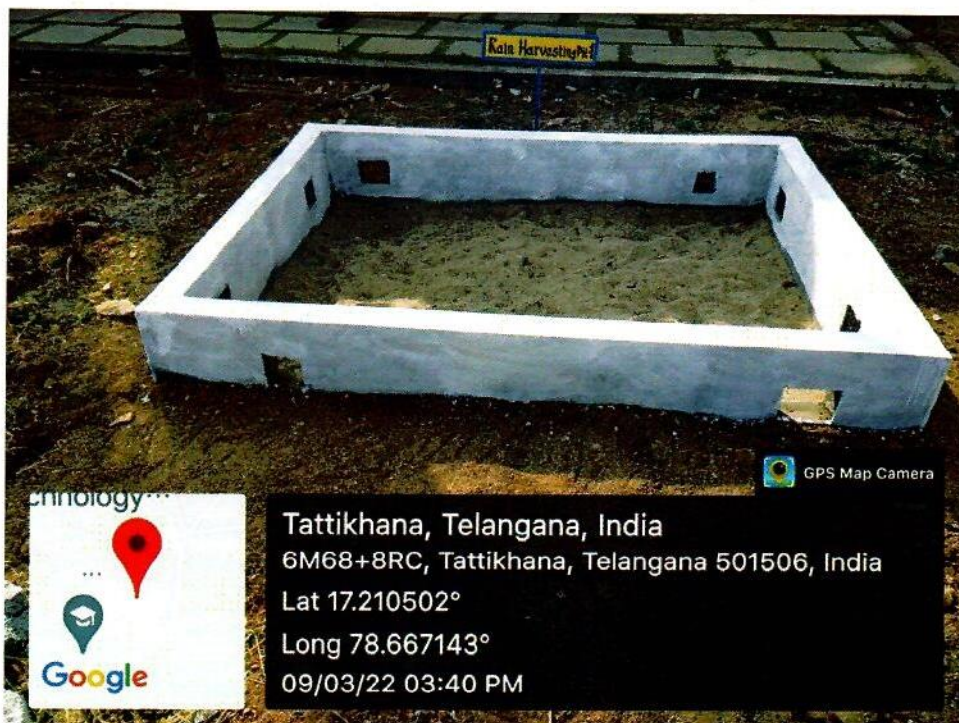


### 7.1.4: Water conservation facilities available in the Institution

#### 1. Rain water harvesting



Rain harvesting pit beside B-Block.



Rain harvesting pit Civil / Mech labs.

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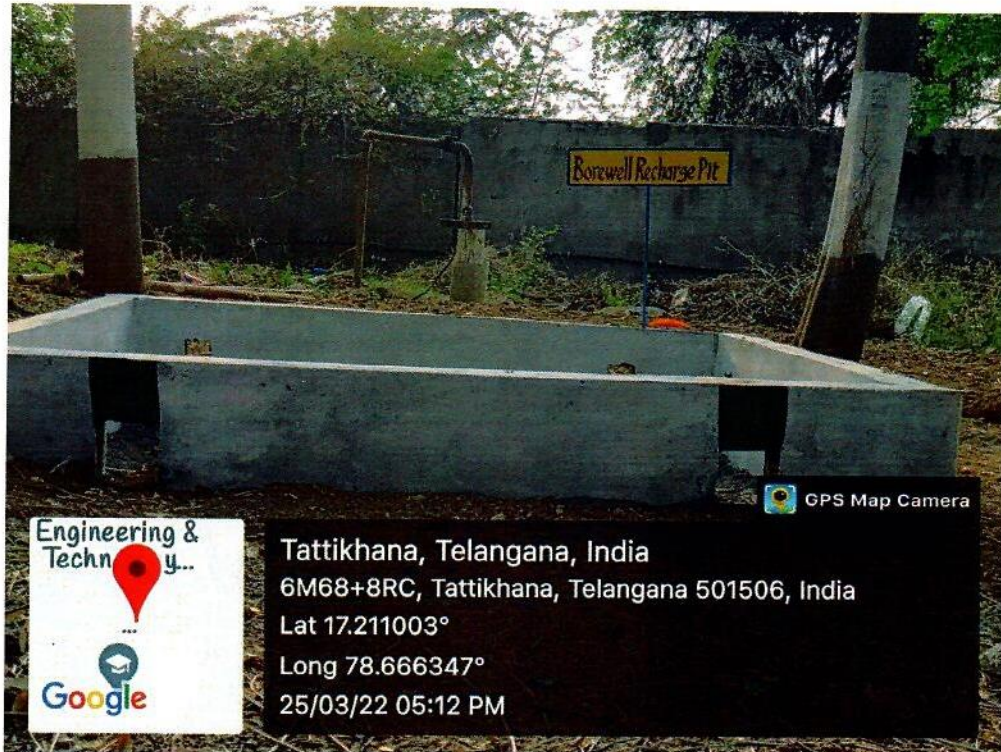
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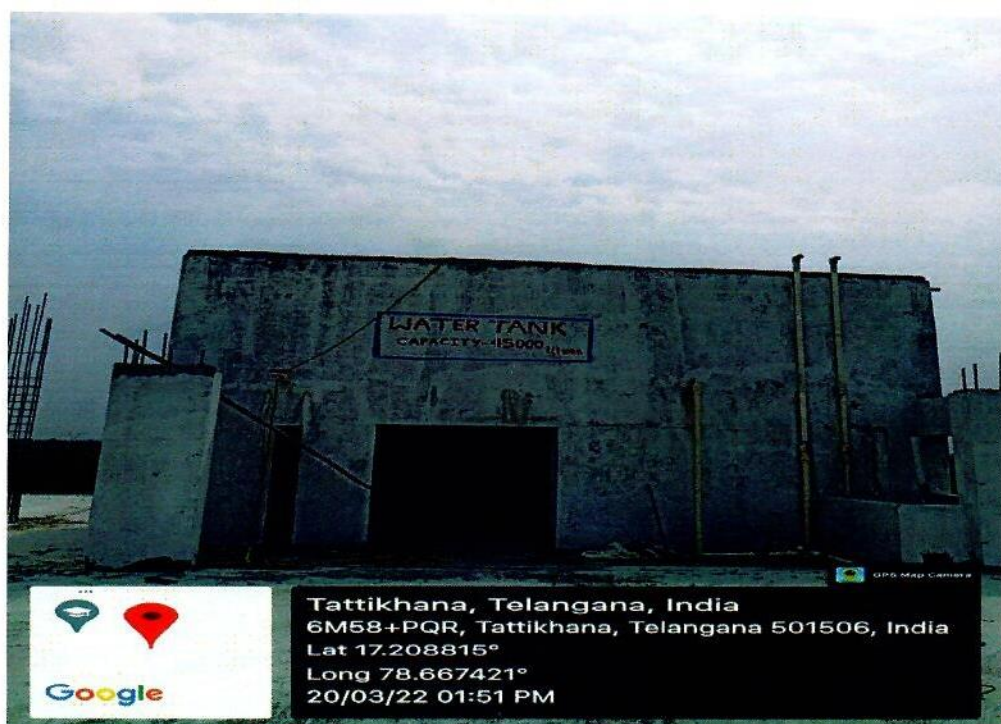


### 2. Bore well /Open well recharge



Bore well recharge pit backside of B-block.

### 3. Construction of tanks and bunds





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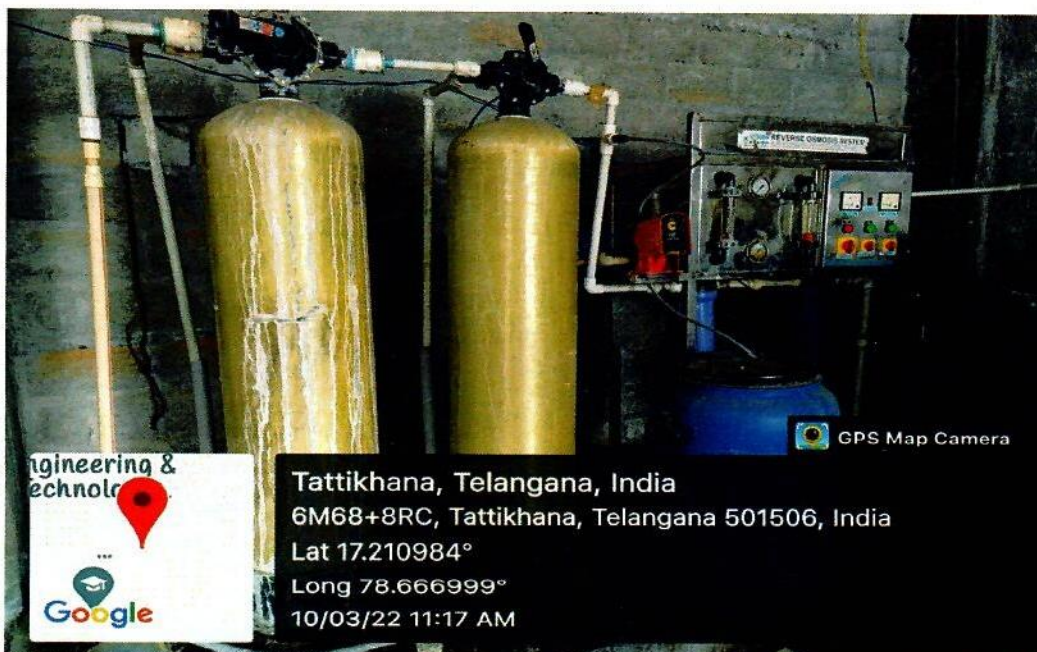
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Overhead tank on Boys hostel.

#### 4. Waste water recycling



Ro plant in boy's hostel



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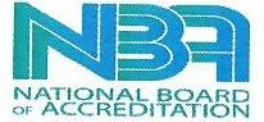
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Ro plant girl's hostel



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Ro plant in main block



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**7.1.3: Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste**

**Geo-tagged Photographs of the Facilities**

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**7.1.3: Describe the facilities in the institution for the management of the following types of degradable and non- degradable waste**

### 1. Solid waste management



Separation of wet and dry waste



Disposal of solid waste

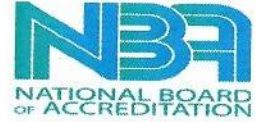


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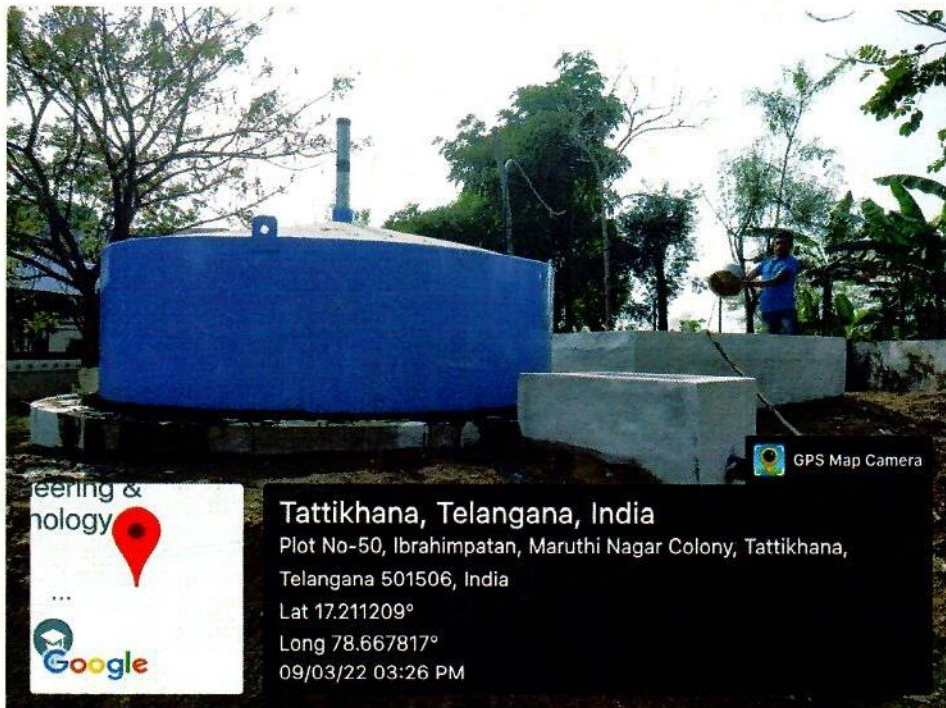
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Collection of wet and dry waste separately by municipality vehicle.



Converting food waste from campus hostel mess to biogas plant.

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### 2. Liquid waste management



RO Water plant in Girls hostel



RO Water plant in Boys hostel



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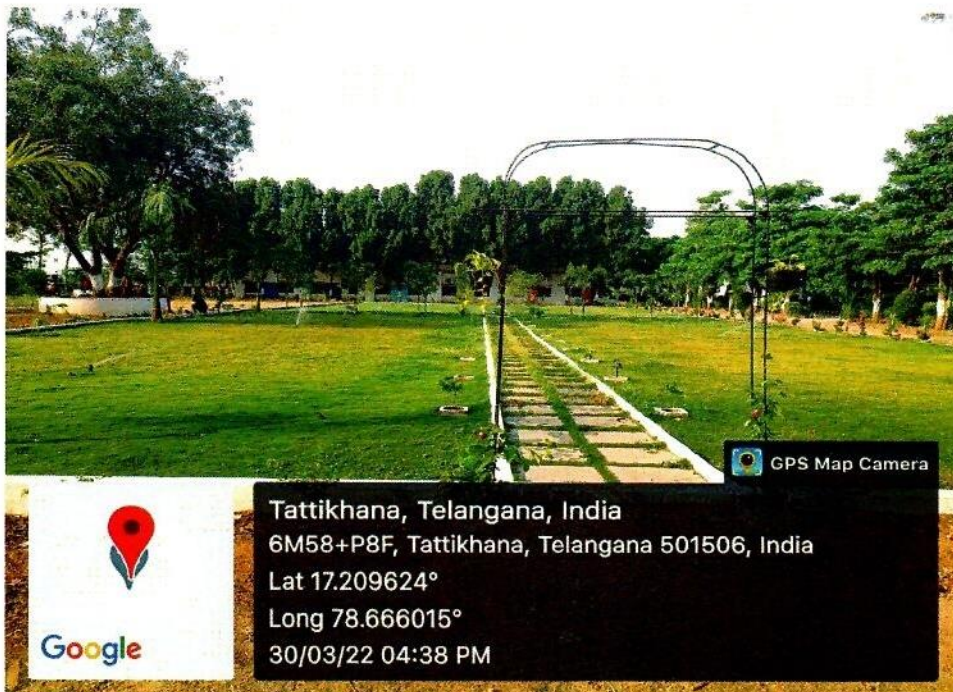
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RO Water Plant in Main block



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Sprinkle Water system at lawns in the campus.

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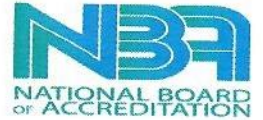
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### 3. Biomedical Waste Management



Vending and Burning machine in the main block.



Vending and Burning machine in the Girls hostel



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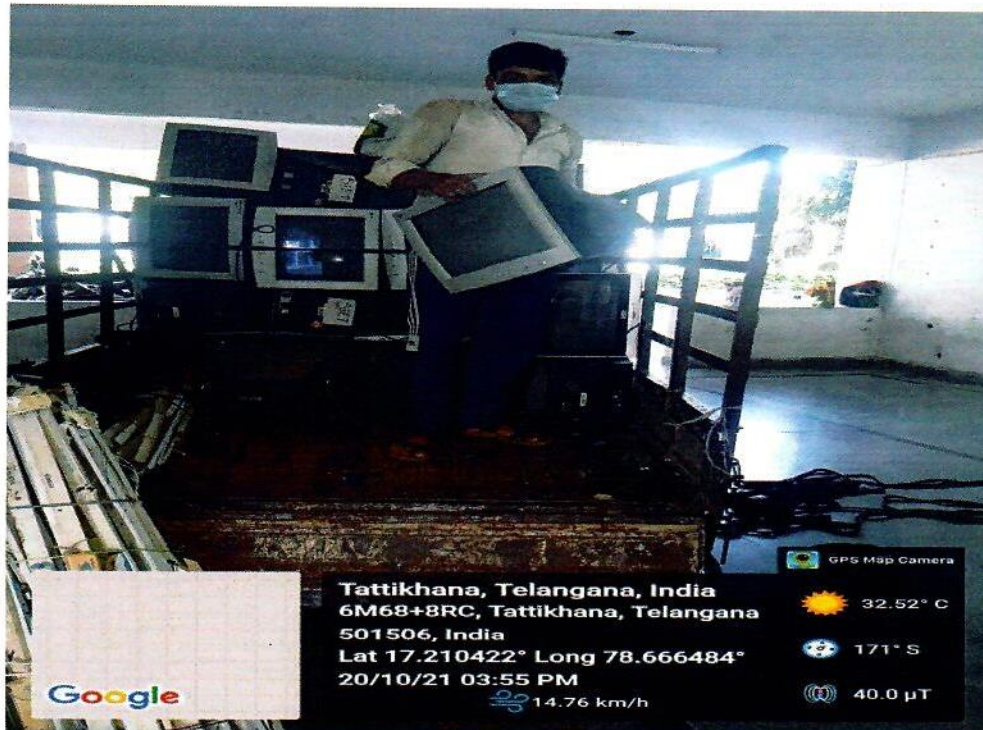
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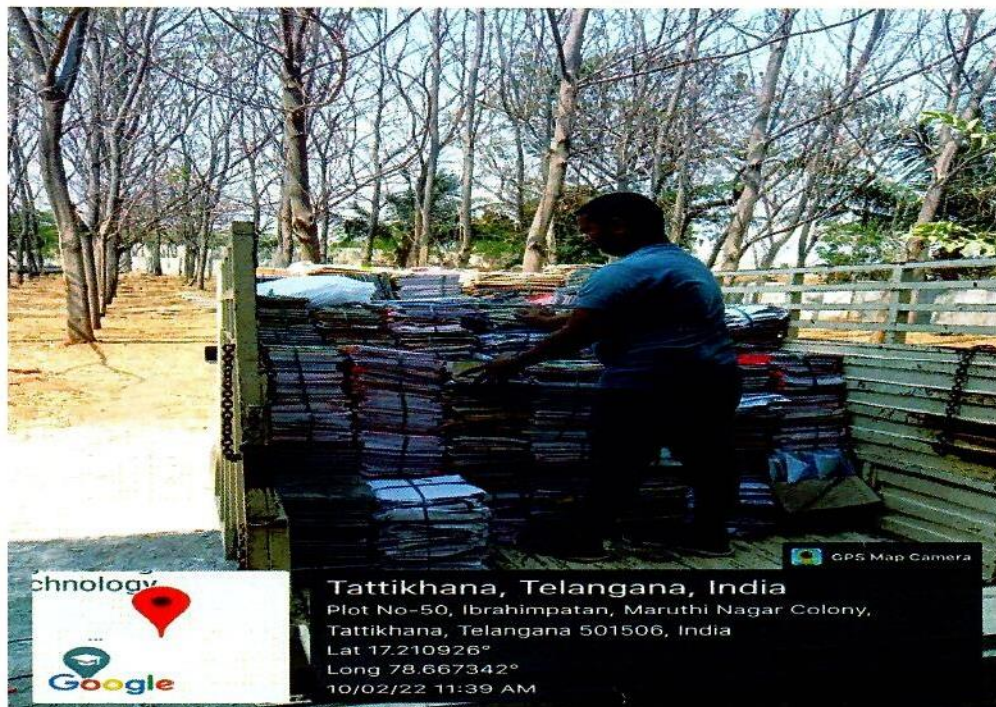


#### 4. E-waste management



Disposal of digital rubbish/waste.

#### 5. Waste recycling system





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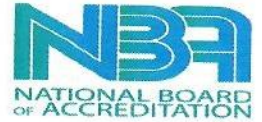
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### 6. Hazardous chemicals and radioactive waste management



Chemical spill kit to absorb hazardous chemicals waste.



Mercury spill kit to collect mercury spill.

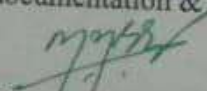
**Memorandum of Understanding Between  
Guru Nanak Institutions Technical Campus (Mentor)  
And  
Siddhartha Institute of Engineering and Technology (Mentee)**

- 1.0 In order to promote NAAC Accreditation for all Institutions by 2022, Guru Nanak Institutions Technical Campus (GNITC) has been identified by UGC as Mentor institution to help non-Accredited Universities/College from R R Dist. aspiring to get NAAC Accreditation. The two Institutions agree upon the following:
  - 1.1 GNITC will mentor Siddhartha Institute of Engineering and Technology (SIET) to achieve the NAAC Accreditation.
  - 1.2 SIET will nominate a coordinator for NAAC who will interact regularly with Accreditation Ambassador and IQAC coordinator of GNITC for the purpose. The objective will be to enhance overall quality of mentee Institution and help them to achieve NAAC Accreditation.
- 2.0 It is agreed that GNITC as hub-institution will offer to train the faculty and staff of SIET (as spoke institution) for documentation and sharing of knowledge information & resources.
- 3.0 SIET (mentee) will benefit in following way:
  - 3.1 Mentor brings about enhancement in the overall quality of the mentee.
  - 3.2 Enhances the Profile of Institutions as a result of improved quality of research, teaching and learning methodologies.
  - 3.3 Receives support in the Professional Development of Academics.
  - 3.4 Increased exposure and speedier adaptation to best practices.
  - 3.5 Advantage point in NIRF ranking and NAAC Accreditation.

There will be no cost effect on the mentee institution (SIET) and the hub institution (GNITC) will utilize the central funds to train the spoke institution.

Duration of the Project will be one Calendar Year extendable to two years.

IQAC of Mentor Institution will make a detailed frame work for preparation of Accreditation documentation & set targets and time limit for execution of Tasks.

  
Director (GNITC)

**DIRECTOR**

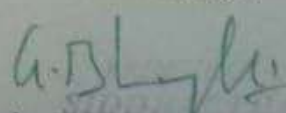
**Guru Nanak Institutions Technical Campus  
Ibrahimpatnam, R.R. Dist.-501 506.**

Guru Nanak Institutions Campus

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Principal

**Siddhartha Institute of Engineering  
and Technology  
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Ibrahimpatnam  
R.R. District, Hyderabad-501506  
Telangana, India.**

**Institute of Engineering and Technology  
Vinobha Nagar (V), Ibrahimpatnam (M),  
Geddy District-501 506.**